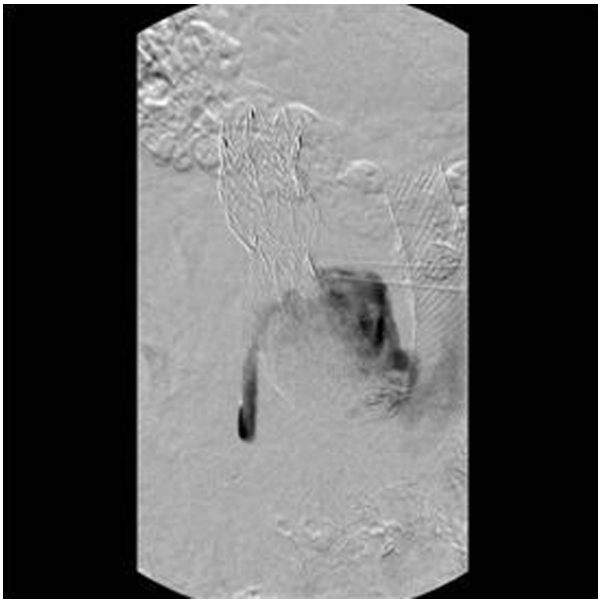
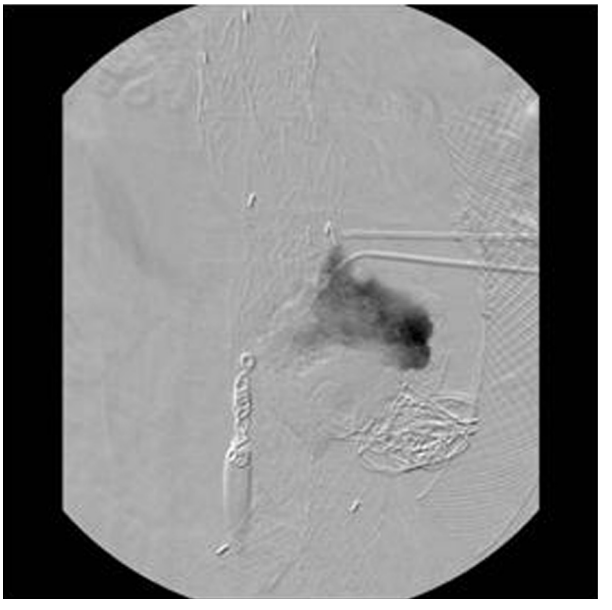




TCTAP C-215

Endovascular Treatment of Type 2 Endoleak After EVAR for Aortocaval Fistula

Herman Schroë
Ziekenhuis Oost Limburg, Belgium

[Clinical Information]
Patient initials or identifier number:
hs case 1 / tctapic001
Relevant clinical history and physical exam:
In July 2013, a 67-year old male was presented at the emergency department with the triad of an abdominal continuous bruit, a pulsatile abdominal mass and severe congestive heart failure. CT-scan revealed a ruptured infrarenal aortic aneurysm into the inferior vena cava. This was treated with a aorto-bi-iliac stentgraft. On the final angiogram at the end of this procedure, there was no evidence of an important endoleak. Nine days later, the patient left the hospital in good condition.
In November 2013, a first follow-up CT-scan was performed and this showed an important type II endoleak sustained by a patent inferior mesenteric artery and a persistent aortocaval communication. The aneurysm diameter was reduced, but it was deemed necessary to treat the aortocaval fistula. Therefore, a transvenous embolization of the aneurysmal sac was performed with glue and coils. The day after the procedure however, a new CT-scan was performed, and this showed a persisting endoleak through inferior mesenteric artery and the aortocaval fistula. The next day, a new successfull embolization of the inferior mesenteric artery was performed through a translumbar puncture.
Relevant test results prior to catheterization:
Clinical examination and CT scan on admission.
CT scan on follow up
Relevant catheterization findings:
Bilateral access: 5F (right) and 11F (left) sheath in common femoral vein
5F cobra catheter through 5F sheath and positioning into the aneurysm sac through the aortocaval fistula
Contrast injection through cobra catheter shows a large communication between aneurysm sac and inferior vena cava
Contrast injection through the right sheath shows a leak of contrast from the inferior vena cava into the aneurysm sac
[Interventional Management]
Procedural step:
Balloon (20mm diameter-40 mm) through 11F sheath and positioning into inferior vena cava, at the level of the fistula
Insufflation of the balloon: temporary occlusion of inferior vena cava and aortocaval fistula
Placement of coaxial microcatheter through the cobra catheter into the aneurysm sac
Embolization with several wire coils and injection of Lipiodol ® – Histoacryl ® mixture into the aneurysm sac
Escape of some embolic agent into the inferior vena cava: to retain this, placement of a Wall stent (24mm-70mm) at the level of the aortocaval fistula into IVC is performed
Postdilatation of the stent with the 20mm balloon
Contrast injection shows good patency of the inferior vena cava and entrapment of embolic agent between the wall of the inferior vena cava and the Wall stent.
End of procedure
CT scan one day later shows persistent type II endoleak, sustained by patent AMI with outflow through patent lumbar arteries and median sacral artery, and a persistent aortocaval fistula
New procedure under general anesthesia and ventral decubitus
Translumbar puncture of the endoleak cavity with 18G needle
Contrast injection shows persistent endoleak with inflow from the inferior mesenteric artery and outflow through aortocaval fistula
Advancement of microcatheter (Progreat 2,7) into the inferior mesenteric artery
Obliteration of inferior mesenteric artery by placing several microcoils
Additional injection of Lipiodol®-Histoacryl® mixture into the aneurysm sac until it is completely obliterated

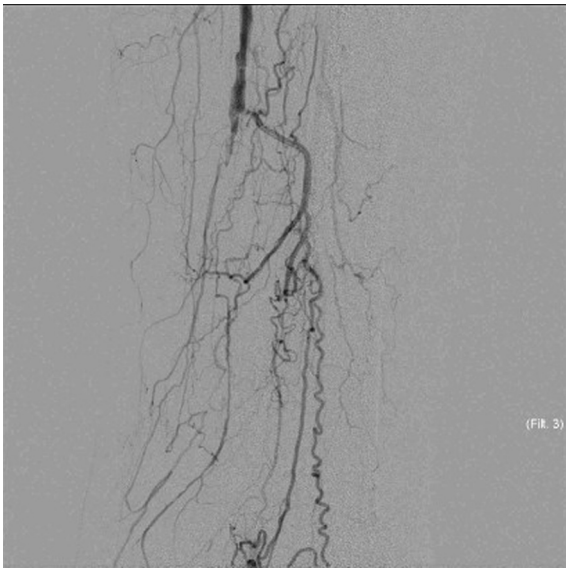
TCTAP C-216

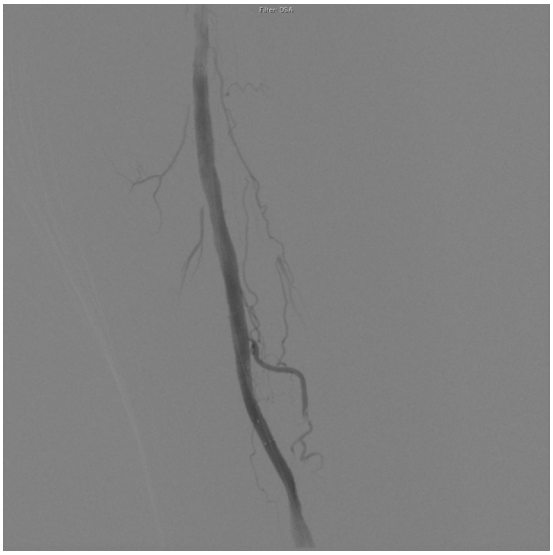
Successful Endovascular Intervention of Chronic Total Occlusion with Severe Calcification in the Superficial Femoral Artery Using 0.035 Inch Wire Terminal End

Ryuta Sugihara, Koshi Matsuo
Osaka Police Hospital, Japan

[Clinical Information]
Patient initials or identifier number:
R.T 01860676
Relevant clinical history and physical exam:
An 85-year-old female had previously received femoral-femoral bypass (F-F bypass) surgery for left common internal artery occlusion, and femoral-popliteal artery bypass (F-P bypass) surgery for left superficial femoral artery (SFA) occlusion.
She admitted for left toe pain which showed cyanosis and gangrenous change. Duplex showed F-P bypass was occluded. Therefore, we decided to perform endovascular therapy for left superficial femoral artery.

Relevant test results prior to catheterization:
Duplex ultrasonogram revealed her F-P bypass was occluded, and SFA was also occluded with severe calcification. Her left skin perfusion pressures were 9mmHg at plantar and 26mmHg at dorsal artery.
Relevant catheterization findings:
Her F-P bypass and distal SFA was occluded.
[Interventional Management]
Procedural step:
We inserted a 6Fr guiding sheath in the F-F bypass body. Firstly, we tried to cross the CTO lesion in the superficial femoral artery with antegrade approach, using 0.014-inch stiffness wire with microcatheter. But it was too difficult to cross the lesion because of severe calcification. Then, we punctured the distal posterior tibial artery and inserted a soft wire with microcatheter. We tried to cross the lesion with bidirectional approach, but could not cross. IVUS showed the antegrade wire into the sub intimal space.
Because we thought reentry was necessary for recanalization, we needed more stiffness wire. Then, we used a 0.035-inch wire terminal end, and finally succeeded to reenter the distal true lumen.
We performed predilatation with 4.0×40mm balloon and implanted 6.0×120mm and 7.0×100mm nitinol stents. After postdilatation, the final angiogram showed successful recanalization in the SFA CTO lesion.





Case Summary:
We sometimes experience that it is too difficult to cross the lesion with severe calcification like this case and the wire usually tends to advance into the sub intimal space, then we need to perform reentry from sub intimal space to the true lumen.
In this case we needed more stiffness wire for reentry. Then, we deformed terminal end of 0.035-inch wire and used for reentry.
We think this method is useful for this situation.

TCTAP C-217

A Case of Critical Limb Ischemia by Calciphylaxis

Tomonari Takagi, Hatato Ohtani
Seirei Mikatahara Hospital, Japan

[Clinical Information]
Patient initials or identifier number:
T.N
Relevant clinical history and physical exam:
A 66-years-old male with end-stage renal failure due to nephrotic syndrome who had been on regular HD for 24 years was referred to our hospital complaining of intractable pain at rest in the right foot.
He had a past medical history of aortic valve replacement with a mechanical valve for severe aortic regurgitation, receiving warfarin for four years.
Relevant test results prior to catheterization:
The ABI value was 0.36 at right and 0.99 at left side.
Flow pattern by duplex ultrasonography indicated presence of infrapopliteal lesions.
Relevant catheterization findings:
Angiography showed the diffuse and severe calcification and diffuse disease in the all infrapopliteal arteries.
The Right tibial - peroneal trunk was severe stenosis with heavy calcification.
The right anterior tibial (ATA) and peroneal and post tibial arteries (PTA) were occluded.
[Interventional Management]
Procedural step:
First, we performed Endovascular treatment (EVT) of ATA for restoration of pulsatile one straight-line flow to the distal extremity. We performed ipsilateral antegrade approach from right femoral artery by the 6Fr sheath. The occlusive lesion of ATA was crossed with a 0.014-inch stiffness wire with micro catheter. Balloon angioplasty using 2/150mm balloon catheter to ATA and tibial - peroneal trunk was performed. Final angiogram confirmed acceptable ATA dilatation.
Though the blood flow of ATA was improved, his intractable pain wasn't reduced. Especially, he felt a sharp pain to his right little toe.
Second, we performed EVT of PTA. We performed similarly approach. Angiography showed the restenosis of tibial - peroneal trunk. We tried to cross the 0.014-inch stiffness wire supported by a micro catheter to PTA, but it couldn't pass the CTO lesion. Then, for the purpose of improvement of inflow, balloon angioplasty for tibial - peroneal trunk was performed.
After procedure, his pain was reduced. But two months after the second session, his pain got worse.
Third, we performed similarly approach. Angiography showed re - restenosis of tibial - peroneal trunk and occlusion of ATA. The occlusive lesion of ATA was crossed with a 0.014-inch wire with micro catheter. Balloon angioplasty using 2/200mm balloon catheter to ATA was performed.